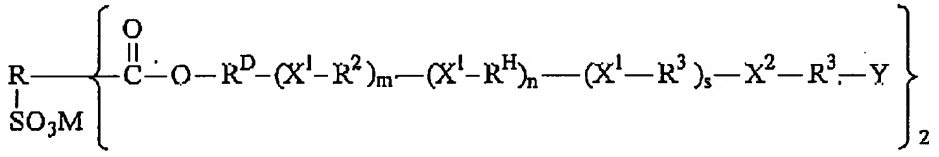
AMMENDMENTS TO THE CLAIMS

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) An ink comprising an aqueous vehicle and dispersed particles of a silyl-terminated sulfopoly(ester-urethane), wherein said ink is an ink jet ink.

2. (Previously Presented) The ink of claim 1, wherein the silyl-terminated sulfopoly(ester-urethane) is described by the formula:



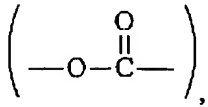
wherein

R represents a trivalent C_6 - C_{12} aryl group or a trivalent C_1 - C_{20} aliphatic group wherein M is H^+, an alkali metal cation, an alkaline earth metal cation, or a primary, secondary, tertiary, or quaternary ammonium cation;

each m independently represents 0 or 1, each n independently represents 0 or 1, each s independently represents 0 or 1, with the proviso that, at least one of m or n must be equal to 1;

each R^D independently represents:

1) at least one of a divalent linear or branched organic group of 20 to 150 carbon atoms in units of 2 to 12 methylene groups and arylene groups of 6 to 10 carbon atoms separated by at least one of 1 to 50 catenary oxygen atoms and by 1 to 30 oxycarbonyl groups,



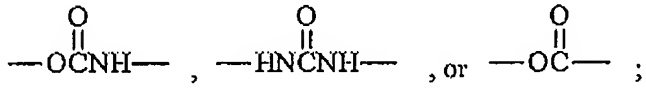
2) an organic group selected from the group consisting of a linear or branched alkylene group having 2 to 12 carbon atoms, a cyclopentamethylene group, a

cyclohexamethylene group, a 5- or 6-membered azacyclic group, a phenylene group, a naphthalene group, a phenylenemethylenephenylene group, the organic group optionally being substituted by up to four lower alkyl groups having 1 to 4 carbon atoms and a total of up to 15 carbon atoms, which organic group can be chain extended by a transesterification reaction between a diol terminated ester precursor and a lower aliphatic diester of an aliphatic diacid having from 2 to 12 carbons or an aromatic diacid having from 8 to 12 carbons or reaction between a diol terminated ester precursor and an aliphatic lactone of 4 to 6 carbons, or

3) the structure $\{-R^1(X^1-R^2-X^1-R^1)_p-\}$ where p is an integer from 1 to 5, produced by the reaction of a polyol with an isocyanate having the structure OCN-R^2-NCO to produce a segment having a molecular weight of from 500 to 4,000;

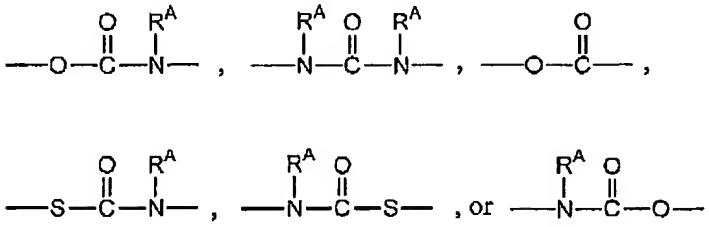
each R^1 independently represents a linear or branched alkylene group having 2 to 12 carbon atoms, or an arylene group having 6 to 10 carbon atoms;

each X^1 independently represents



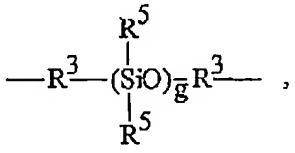
each R^2 independently represents an organic group selected from the group consisting of a linear or branched alkylene group having 2 to 12 carbon atoms, a cyclopentamethylene group, a cyclohexamethylene group, a 5- or 6-membered azacyclic group, a phenylene group, a naphthalene group, a phenylenemethylenephenylene group, the organic group optionally being substituted by up to four lower alkyl groups having 1 to 4 carbon atoms and a total of at most 15 carbon atoms;

each X^2 independently represents

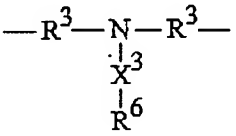


wherein each R^A independently represents hydrogen, lower alkyl having 1 to 4 carbon atoms, or R^1-Y;

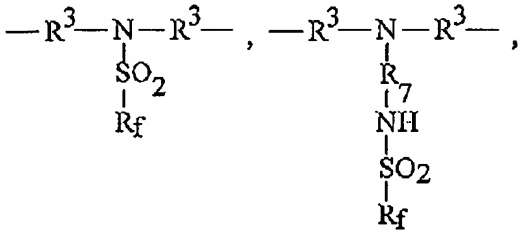
each R^H independently represents a divalent hydrophobic group selected from divalent oligomeric siloxanes having the structure



divalent organic groups having the structure



or divalent organic groups having one of the structures



or quaternary salts thereof, wherein

each R^3 independently represents a divalent linear or branched alkylene group having 2 to 12 carbon atoms, or a divalent arylene or alkarylene group having 6 to 20 carbon atoms;

each Y independently represents H, an alkyl group having from 1 to 20 carbon atoms, an aryl group having from 6 to 10 carbon atoms, or

$$-Si(OR^8)_z(R^4)_w,$$

wherein each R^4 independently represents a monovalent lower alkyl group having from 1 to 4 carbon atoms, each R^8 is H or a monovalent lower alkyl group having from 1 to 4 carbon atoms, each z is independently 2 or 3, each w is independently 0 or 1, and wherein z + w = 3, with the proviso that at least one Y has the formula

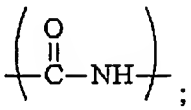
$-Si(OR^8)_z(R^4)_w$;

each R^5 independently represents a monovalent group selected from the group consisting of alkyl groups of 1 to 12 carbon atoms, aryl having 6 to 10 carbon atoms, or aralkyl groups having 6 to 10 carbon atoms, with at least 70 percent of R^4 being methyl;

each g independently represents an integer of from 10 to 300;

each X^3 independently represents a covalent bond, a carbonyl group,

or a divalent amido group



;

each R^6 independently represents a monovalent group selected from the group consisting of alkyl groups of about 4 to about 60 carbon atoms;

each R^7 independently represents a divalent group selected from the group consisting of alkylene groups of 2 to about 12 carbon atoms; and

each R_f independently represents a monovalent saturated fluoroaliphatic group having 6 to 12 carbon atoms, at least four of which are fully-fluorinated carbon atoms.

3. (Previously Presented) The ink of claim 1, wherein the ink is free of organic solvents.

4. (Previously Presented) The ink of claim 1, further comprising a colorant, wherein the colorant is a pigment.

5. (Previously Presented) The ink of claim 1, further comprising a colorant, wherein the colorant is a dye.

6. (Previously Presented) The ink of claim 1, further comprising an additional dispersed polymer.

7. (Previously Presented) The ink of claim 6, wherein the additional dispersed polymer is present in an amount of from about 0.1 to about 3 times the weight of the silyl-terminated sulfopoly(ester-urethane) polymer.

8. (Previously Presented) The ink of claim 7, wherein the additional dispersed polymer is an acrylic polymer.

9. (Previously Presented) The ink of claim 1, further comprising a humectant.

10. (Previously Presented) The ink of claim 1, wherein the ink has a solids content of at least 20 weight percent of the total ink composition.

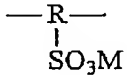
11. (Previously Presented) The ink of claim 1, wherein the ink has a solids content of at least 30 weight percent of the total ink composition.

12. (Previously Presented) The ink of claim 1, wherein the ink has a solids content of at least 50 weight percent of the total ink composition.

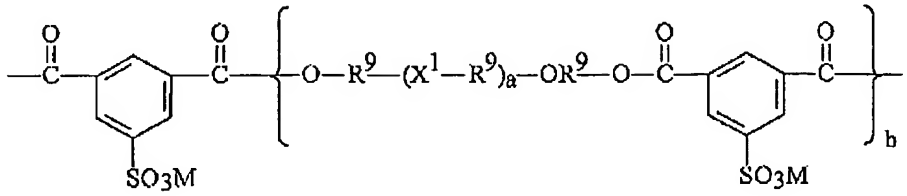
13. (Previously Presented) The ink of claim 1, wherein the ink has a viscosity of less than about 20 mPa·s at 20 °C and at a shear rate of 1000 s^{-1}.

14. (Previously Presented) The ink of claim 1, wherein the ink has a viscosity of less than about 5 mPa·s at 20 °C and at a shear rate of 1000 s^{-1}.

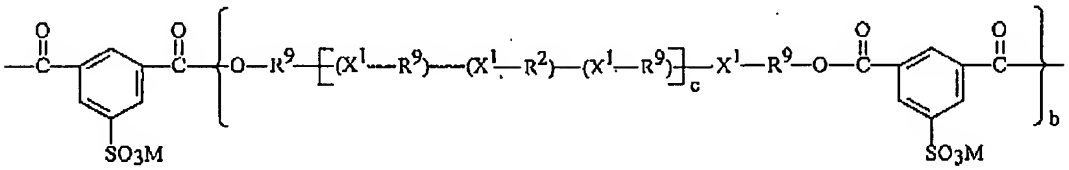
15. (Previously Presented) The ink of claim 2, wherein



is:



, or



and wherein each R^9 independently represents a linear or branched alkylene group having 2 to 12 carbon atoms, an arylene group having 6 to 10 carbon atoms, or may also comprise an oligomeric segment.

16. (Previously Presented) The ink of claim 15, wherein the ink is contained within an ink jet printer cartridge.

17. (Previously Presented) A blendable ink set comprising at least three blendable inks, wherein each ink in the ink set comprises the ink of claim 1.

18. (Previously Presented) The ink set of claim 17, wherein the blendable inks comprise yellow, magenta, and cyan inks.

19. (Previously Presented) The ink set of claim 17, further comprising a fourth blendable ink.

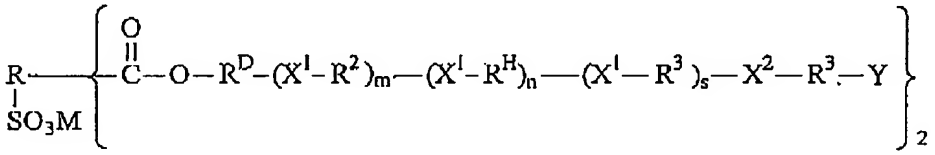
20. (Previously Presented) The ink set of claim 19, wherein the fourth blendable ink is a black ink.

21. (Previously Presented) The ink set of claim 19, further comprising a fifth blendable ink.

22. (Previously Presented) The ink set of claim 21, wherein the fifth blendable ink is a white ink.

23. (Previously Presented) The ink of claim 1, wherein the ink is contained within an ink jet printer cartridge.

24. (Previously Presented) A method of imaging a substrate, said method comprising ink jet printing an aqueous composition onto a substrate, wherein the aqueous composition comprises an aqueous vehicle and a silyl-terminated sulfopoly(ester-urethane) having the formula:



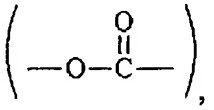
wherein

R represents a trivalent C_6 - C_{12} aryl group or a trivalent C_1 - C_{20} aliphatic group wherein M is H^+, an alkali metal cation, an alkaline earth metal cation, or a primary, secondary, tertiary, or quaternary ammonium cation;

each m independently represents 0 or 1, each n independently represents 0 or 1, each s independently represents 0 or 1, with the proviso that, at least one of m or n must be equal to 1;

each R^D independently represents:

1) at least one of a divalent linear or branched organic group of 20 to 150 carbon atoms in units of 2 to 12 methylene groups and arylene groups of 6 to 10 carbon atoms separated by at least one of 1 to 50 catenary oxygen atoms and by 1 to 30 oxycarbonyl groups,

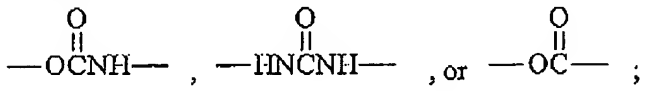


2) an organic group selected from the group consisting of a linear or branched alkylene group having 2 to 12 carbon atoms, a cyclopentamethylene group, a cyclohexamethylene group, a 5- or 6-membered azacyclic group, a phenylene group, a naphthalene group, a phenylenemethylenephenylene group, the organic group optionally being substituted by up to four lower alkyl groups having 1 to 4 carbon atoms and a total of up to 15 carbon atoms, which organic group can be chain extended by a transesterification reaction between a diol terminated ester precursor and a lower aliphatic diester of an aliphatic diacid having from 2 to 12 carbons or an aromatic diacid having from 8 to 12 carbons or reaction between a diol terminated ester precursor and an aliphatic lactone of 4 to 6 carbons, or

3) the structure $\{-R^1(X^1-R^2-X^1-R^1)_p-\}$ where p is an integer from 1 to 5, produced by the reaction of a polyol with an isocyanate having the structure OCN-R^2-NCO to produce a segment having a molecular weight of from 500 to 4,000;

each R^1 independently represents a linear or branched alkylene group having 2 to 12 carbon atoms, or an arylene group having 6 to 10 carbon atoms;

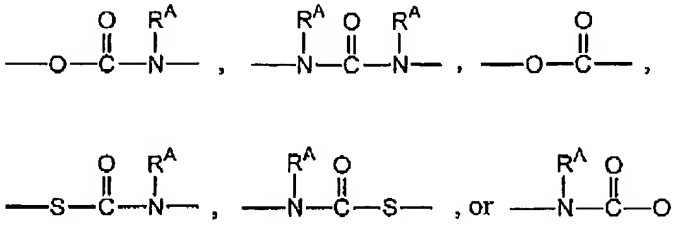
each X^1 independently represents



each R^2 independently represents an organic group selected from the group consisting of a linear or branched alkylene group having 2 to 12 carbon atoms, a cyclopentamethylene group, a cyclohexamethylene group, a 5- or 6-membered azacyclic group, a phenylene group, a naphthalene group, a phenylenemethylenephenylene group,

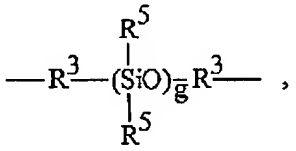
the organic group optionally being substituted by up to four lower alkyl groups having 1 to 4 carbon atoms and a total of at most 15 carbon atoms;

each X^2 independently represents

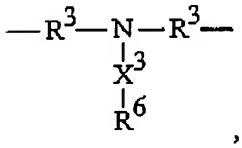


wherein each R^A independently represents hydrogen, lower alkyl having 1 to 4 carbon atoms, or R^1-Y;

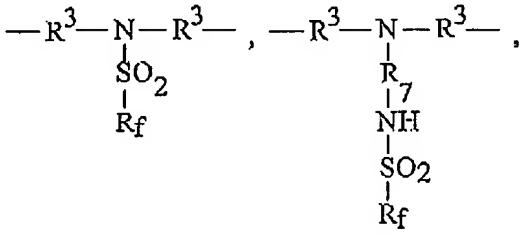
each R^{II} independently represents a divalent hydrophobic group selected from divalent oligomeric siloxanes having the structure



divalent organic groups having the structure



or divalent organic groups having one of the structures



or quaternary salts thereof, wherein

each R^3 independently represents a divalent linear or branched alkylene group having 2 to 12 carbon atoms, or a divalent arylene or alkarylene group having 6 to 20 carbon atoms;

each Y independently represents H, an alkyl group having from 1 to 20 carbon atoms, an aryl group having from 6 to 10 carbon atoms, or

$$-Si(OR^8)_z(R^4)_w,$$

wherein each R^4 independently represents a monovalent lower alkyl group having from 1 to 4 carbon atoms, each R^8 is H or a monovalent lower alkyl group having from 1 to 4 carbon atoms, each z is independently 2 or 3, each w is independently 0 or 1, and wherein z + w = 3, with the proviso that at least one Y has the formula

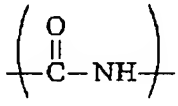
$$-Si(OR^8)_z(R^4)_w;$$

each R^5 independently represents a monovalent group selected from the group consisting of alkyl groups of 1 to 12 carbon atoms, aryl having 6 to 10 carbon atoms, or aralkyl groups having 6 to 10 carbon atoms, with at least 70 percent of R^4 being methyl;

each g independently represents an integer of from 10 to 300;

each X^3 independently represents a covalent bond, a carbonyl group,

or a divalent amido group



;

each R^6 independently represents a monovalent group selected from the group consisting of alkyl groups of about 4 to about 60 carbon atoms;

each R^7 independently represents a divalent group selected from the group consisting of alkylene groups of 2 to about 12 carbon atoms; and

each R_f independently represents a monovalent saturated fluoroaliphatic group having 6 to 12 carbon atoms, at least four of which are fully-fluorinated carbon atoms.

25. (Previously Presented) The method of claim 24, wherein the composition further comprises a colorant.

26. (Previously Presented) The method of claim 24, wherein the composition further comprises an additional dispersed polymer.

27. (Previously Presented) The method of claim 24, wherein the composition further comprises a humectant.

28. (Previously Presented) The method of claim 24, wherein the ink jet printing step comprises piezo ink jet printing.

29. (Previously Presented) The method of claim 24, wherein the substrate is a fabric.

30. (Previously Presented) The method of claim 29, wherein the fabric is a textile.

31. (Previously Presented) The method of claim 24, wherein the substrate is glass.

32. (Previously Presented) The method of claim 24, wherein the substrate is a polymer film.

33. (Previously Presented) The method of claim 32, wherein the polymer film is a laminate.

34. (Previously Presented) The method of claim 24, wherein the substrate is paper.

35. (Previously Presented) An article comprising a substrate imaged according to the method of claim 24.

36-52. (Cancelled)